

pH/EC/TDS/Temperature Monitors

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Backlit LCD!

COMBO
GRÖCHEK®

- Waterproof
- Adjustable TDS ratio and adjustable β
- Stability indicator and HOLD

These indicators continuously monitor the three most crucial nutrient parameters in hydroponic, greenhouse and horticultural applications.

At startup, these indicators perform a self-check to assure proper working condition. The stability indicator and HOLD function lets the user know when to take readings and freezes the reading on display for easy and accurate recording.

These instruments are supplied with a non-clogging double junction pH electrode as well as a rugged conductivity probe that will withstand even the most aggressive environments. The 12 VDC adapter makes these instruments ideal for all continuous monitoring applications.

ORDERING INFORMATION

HI 991404-01 (115V) and **HI 991404-02** (230V) is supplied with HI 1293 pH electrode, HI 7630 EC probe (fixed), HI 70004 pH 4.01 buffer solution sachet, HI 70007 pH 7.01 buffer solution sachet, HI 70031 1413 $\mu\text{S}/\text{cm}$ calibration solution sachet, 12 VDC adapter and instructions.

HI 991405-01 (115V) and **HI 991405-02** (230V) is supplied with HI 1293 pH electrode, HI 7630 EC probe (fixed), HI 70004 pH 4.01 buffer solution sachet, HI 70007 pH 7.01 buffer solution sachet, HI 70030 1288 mS/cm calibration solution sachet, 12 VDC adapter and instructions.

ELECTRODES

- HI 7630** Conductivity probe with 1/2" NPT pipe thread and 2 m (6.6') cable*
- HI 1293** PEI body, pre-amplified pH electrode with 1/2" NPT pipe thread, DIN connector and 2 m (6.6') cable

SOLUTIONS

- HI 70004P** pH 4.01 buffer solution, 20 mL sachets (25)
- HI 70007P** pH 7.01 buffer solution, 20 mL sachets (25)
- HI 70010P** pH 10.01 buffer solution, 20 mL sachets (25)
- HI 70030P** 12.88 mS/cm calibration solution, 20 mL sachets (25)
- HI 70031P** 1413 $\mu\text{S}/\text{cm}$ calibration solution, 20 mL sachets (25)
- HI 70032P** 1382 ppm calibration solution, 20 mL sachets (25)
- HI 70038P** 6.44 g/L (ppt) calibration solution, 20 mL sachets (25)
- HI 70442P** 1500 ppm calibration solution, 20 mL sachets (25)
- HI 70300M** Electrode storage solution, 250 mL
- HI 7061M** Probe cleaning solution, 250 mL

* to be replaced by authorized technical personnel only

SPECIFICATIONS		HI 991404	HI 991405
Range	pH	0.0 to 14.0 pH	0.0 to 14.0 pH
	EC	0 to 3999 $\mu\text{S}/\text{cm}$	0.00 to 20.00 mS/cm
	TDS	0 to 2000 mg/L (ppm)	0.00 to 10.00 g/L (ppt)
	Temperature	0.0 to 60.0°C / 32.0 to 122.0°F	0.0 to 60.0°C / 32.0 to 122.0°F
Resolution	pH	0.1 pH	0.1 pH
	EC	1 $\mu\text{S}/\text{cm}$	0.01 mS/cm
	TDS	1 mg/L (ppm)	0.01 g/L (ppt)
	Temperature	0.1°C (0.1°F)	0.1°C (0.1°F)
Accuracy (@20°C/68°F)	pH	± 0.1 pH	
	EC/TDS	$\pm 2\%$ F.S.	
	Temperature	$\pm 0.5^\circ\text{C}$ ($\pm 1^\circ\text{F}$)	
Temperature Compensation		pH: automatic; EC/TDS: automatic with β adjustable from 0.0 to 2.4%/°C	
pH Calibration		pH: automatic, one or two points with auto-buffer recognition	
EC/TDS Calibration		automatic, one point at 1413 $\mu\text{S}/\text{cm}$ or 1382 ppm	automatic, one point at 12.88 mS/cm or 6.44 g/L (ppt)
pH Electrode		HI 1293 PEI body, pre-amplified pH electrode with 1/2" NPT pipe thread, DIN connector and 2 m (6.6') cable (included);	
EC/TDS Probe		HI 7630 conductivity probe with 1/2" NPT pipe thread and 2 m (6.6') cable(fixed)	
TDS Conversion Factor		adjustable from 0.45 to 1.00	
Environment		0 to 50°C (32 to 122°F); RH max 95% non-condensing	
Input Impedance		10 ¹² Ohm	
Power Supply		12 VDC adapter (included)	
Dimensions / Weight (meter only)		160 x 105 x 31 mm (6.3 x 4.1 x 1.2) / 190 g (6.7 oz.)	

For a complete list of Solutions, see the end of pH Section 3 and Conductivity Section 6.